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动物分类学报

ONE NEW SPECIES AND ONE NEW RECORD SPECIES OF PHTHITIA ENDERLEIN (DIPTERA, SPHAEROCERIDAE) FROM CHINA

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Abstract Phthitia bicornis sp. nov. is described and illustrated from China and P. glabrescensc is reported from China for the first time.

Key words Diptera, Sphaeroceridae, Phthitia, new species, new record, China.

1 Introduction

The genus Phthitia Enderlein was originally described by Enderlein, 1938 with Phthitia venosa as type species. Roh %cek (1983) revised the Palaearctic species of the genus (as Kimosina), including 7 species. Munari (1988, 1990) described and illustrated two Palaearctic species, and Marshall and Smith (1992) reviewed the non2 Palaearctic species of the genus. Up to date, the genus Phthitia has 44 species in the world (Roh %cek, 2001; Papp, 2008), of which 8 species are from the AustralasianPOceanian Region, 15 from the Nearctic, 16 from the Neotropical, 9 from the Palaearctic, 3 from the Afrotropical, and 1 from the Oriental. Species of Phthitia are found in wet habitats in decaying plant materials, and generally associated with cold temperate conditions (Marshall and Smith, 1992). The genus is identified by the following characters: 3 postsutural dorsocentral bristles. Mid femur and mid tibia with spine2like short bristle rows ventrally. Characteristic sternite 10 and surstylus.

Chinese species of Phthitia are poorly known, only two species P. plumosula, P. pteremoides were recorded in China. In this paper, two species from Liuppan Mountains of Ningxia Province are described and illustrated, of them one is a new species and the other is a new record species to China.

2 Materials and Methods

The specimens were collected with net in Mountains and put in ethanol vials. Genitalic preparation was treated by clearing in 10% KOH for transparency, then the whole abdomen was moved to cavity slide with glycerin for further dissecting and examining. After examination, sternite 5 and postabdomen were moved respectively to cavity slides with fresh glycerin for illustrating and taking photos. Finally, all type specimens and specimens examined were transfered to small vitals with ethanol. All the specimens studied are deposited in Shenyang University, Shenyang.

Morphological terminology follows that of McAlpine (1981), Marshall and Richards (1987), with the exception of the postvertical, which follows that of Roh %cek (1998). Absolute measurements are used for body and wing length in millimetres (mm). Abbreviations used for characters are listed as follows: ad = anterodorsal, av = anteroventral, d = dorsal, p = posterior, pd = posterodorsal, pv = posteroventral, v = ventral, Cs_1, Cs_2, Cs_3 = 1^{st}, 2^{nd}, 3^{rd} costal sectors, R_{2+3}, R_{4+5} = radial veins, M_{1+2}, M_{3+4} = medial veins, dM2Cu = discal medial2cubital cross vein.

3 Taxonomy

Phthitia glabrescens (Villeneuve, 1917) New record to China (Figs1 127, 15)

Leptocera (Limosina) glabrescens Villeneuve, 1917: 141
Kimosina (Kimosina) pappi Roh %cek, 1983: 125

Redescription. Male. Body length 1185211193 mm, wing length 1186221100 mm.

Head. Brownish black. Interfrontal bristles 4 pairs, upper 3 pairs large and subequal in length and thickness, the lower setula2like, short and thin. Two pairs of lateroclinate orbital bristles, the lower about 2P3 as long as the upper, inside and below orbital bristles with additional shorter setulae. One pair of postvertical setae small and distinct, eyes bare. Eye height about twice as long as genal height. Facial knob slightly projecting, facial cavities shallow. Genal bristle long and thick, 0143 times as long as vibrissa bristle, vibrissa about 0182 times the distance between vibrissa bristle, 1 genal setula. Antenna black, aristal hairs pubescence, the longest aristal hairs twice as long as aristal width at base, aristal length about 3182 times antenna. Palpus dark brown.

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Thorax. Shiny black. 2 humeral bristles, internal one short and small. Only one pair of prescutellar acrostichal bristles enlarged, 6 rows of acrostichal bristles on presutural scutum. Dorsocentral bristles 0 (2) + 3, postsutural dorsocentral bristles distinct, anterior two subequal, about 1P2 as long as prescutellar dorsocentral bristles, 2 presutural dorsocentral bristles usually indistinct. Katepisternal bristles 2, the anterior weak, the posterior strong, lower margin of katepisternum with hairs. Scutellum black. Scutellar length 0165 times scutellar width, posterior margin rounded triangle. Scutellar disc bare. 2 pairs of scutellar bristles, basal scutellar bristles about 0156 times as long as apical scutellar bristles.

Leg. Dark brown. Base and apex of fore femur and base of fore basitarsus paler brown, the rest dark brown. Mid femur with a row of fine pv bristles, short spine2like and dense and double row or cluster on proximal 1P4, sparse and small on distal 3P4. Mid femur with a row of spine2like av bristles on proximal 1P4. Mid tibia with 1 long ad and 1 pd on proximal half, 1 small ad in front of long ad; 1 long ad, 1 longer d and 1 pd on distal half, 122 small ad in front of long ad, 1 small d in front of longer d (the first upper small ad, longer d and pd arranged in the nearly same level); 2 small p (respectively at distal 1P3 and predistal), 1 short apical v, subequal to apical a. a row of spine2like, dense and thick pv bristles near apical, a row of spine2like pv bristles on distal 1P4. Mid basitarsus with 1 setula2like ventral bristle at proximal 1P4, somewhat longer than ventral setulae, but indistinct.

Wing. Pale brown. veins brown. Costa ending at apex of R_{4+5}. Cs_1 with dense and long setae, 2 bristles at base of Cs_1, one slightly shorter than the other. Cs_2BCs_3 = 1114. Apex of R_{2+3} less sharply bent up to costa. R_{4+5} sinuate to costa. M_{1+2} and M_{3+4} overpassing discal cell as pigmented processes, of which pigmented process of M_{1+2} is 3 times as long as width of dM2Cu cross2vein, M_{3+4} 9 times as long as width of dM2Cu cross2vein. MB dM2Cu = 2133. Vein anal sinuate. Alula small and narrow, rounded apical. Halter grey black, apex of knob with slightly white.

Abdomen. Length 0190 mm, width 0156 mm. Preabdomen dark brown, postabdomen brownish black. Syntergite 1 + 2 dark at posterior margin and pale in medial basal part. Postabdomen slightly bent ventrally. Synsternite 1 + 2 simple and medial basal part pale, sternite 3 subequal to sternite 4, posterior margin of sternites 3 and 4 pale. Sternite 5 shiny black, posteromedial margin with 1 process, apical part of the process bent ventrally, posterior margin of sternite 5 membraneous. Epandrium with sparse and long bristles. Cercus with a long bristle and several setulae. Surstylus with three parts, anterior part with 1 finger2like process anterodorsally, apical rounded. Lateral part with setose. Posterior part situated inside lateral part, posterointernal margin of posterior part with 1 process bearing 2 thick spines. Sternite 10 with long mesolobus and 2 wing2shape sclerites.

Material examined. 6 ` `, Ningxia, Guamagou, Liu2ppan National Nature Reserve, 5 July 2008, SU Li2 Xin (SNU).

Distribution. China (Ningxia Province); Greece, Italy (incl. Sicily), Romania, Yugoslavia (Serbia).

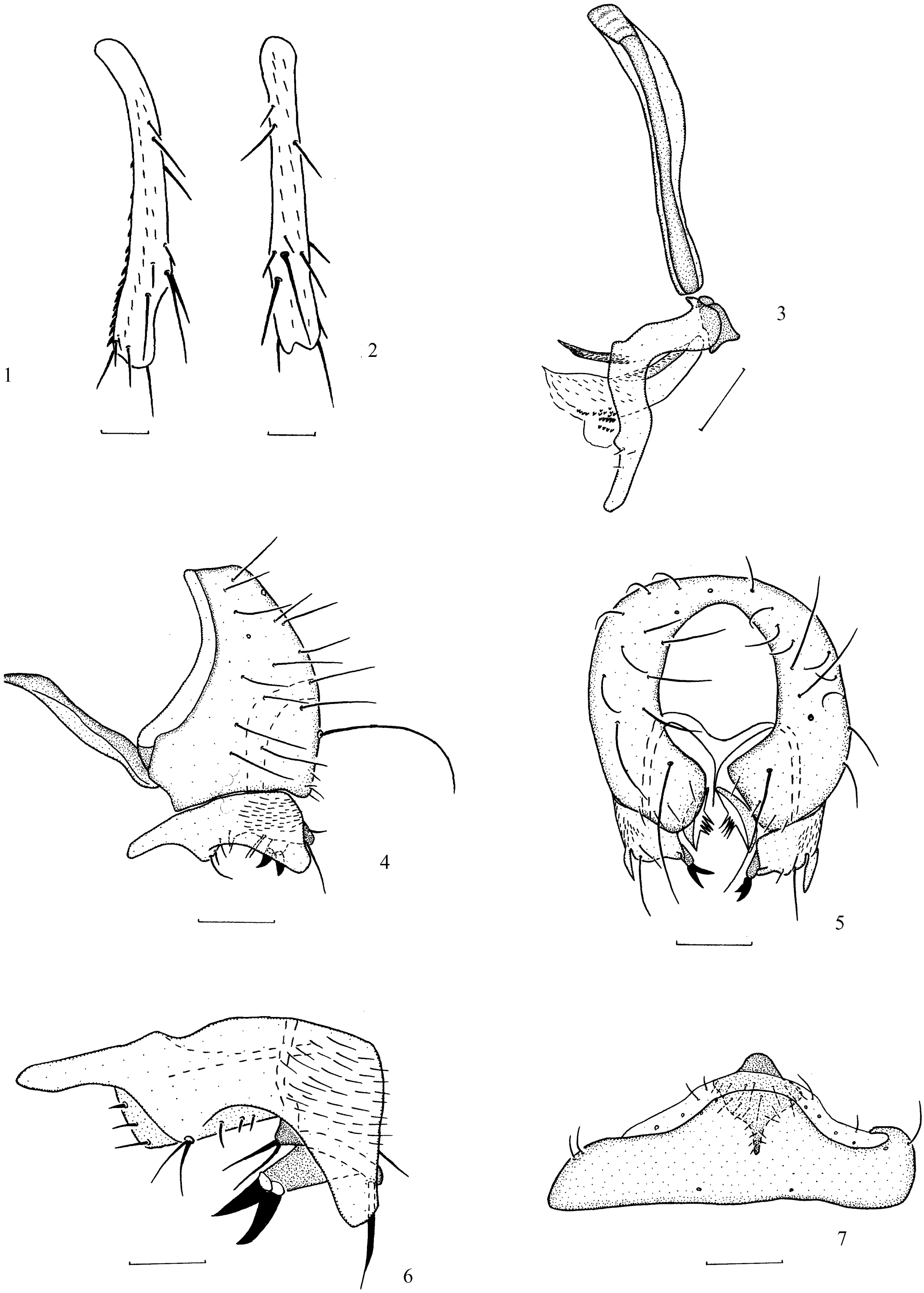
Comments. *Phthitia glabrescens* (Villeneuve) is recorded for the first time in China. *P. glabrescens* was redescribed by Roh %cek (1983). Roh %cek (1983) noted that the type species probably was lost, Roh %cek (2001) designated lectotype of the species. *P. glabrescens* is easily distinguished from other species of *Phthitia* by following characters: short aristal hairs; posteromedial process of sternite 5 bent ventrally; cercus with 1 long bristle, surstylus anterodorsally with 1 finger2like process in anterior part, and characteristic mid tibia. However, distiphallus (Fig13) in examined specimens is somewhat different from description and illustration of Roh %cek 1983 (Fig1886, Roh %cek 1983), namely with similar dorsal sclerite, but the shape and ornament of membranous part somewhat different.

Phthitia bicornis sp. nov. (Figs1814, 16)

Description. Male. Body length 211522130 mm, wing length 210722126 mm (Holotype Body length 2130 mm, wing length 2126 mm).

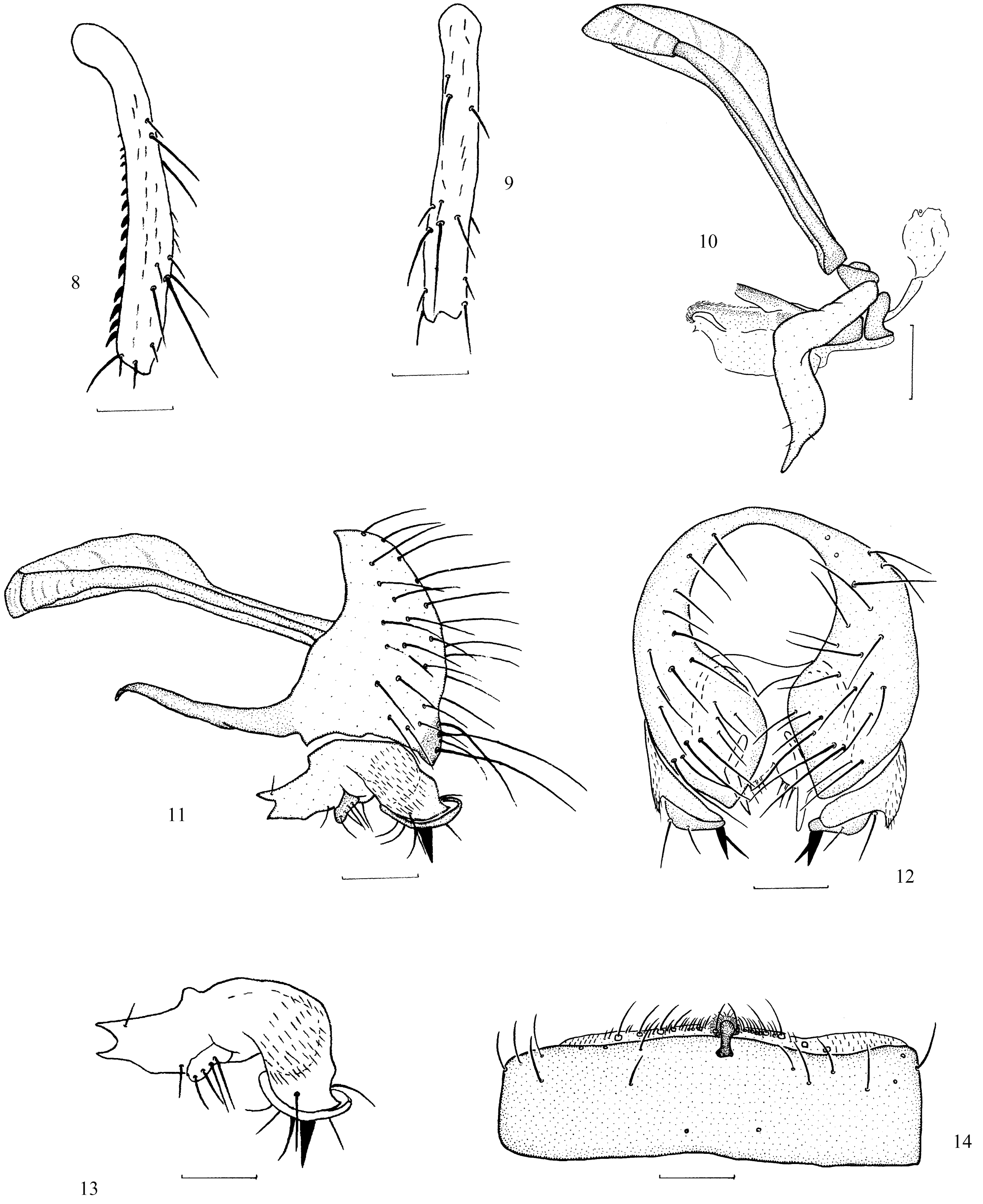
Head. Brownish black. Gena dark brown near vibrissal angle. Interfrontal bristles 4 pairs, upper 3 pairs large and subequal in length and thickness, the lower setula2like, short and thin. Lateroclinate orbital bristles in 2 pairs, one pair about 1133 times as long as the other, inside and below lateroclinate orbital bristles with additional shorter setulae. One pair of postvertical setae small and distinct. Eyes bare, eye height about twice as long as genal height. Genal bristle large and distinct, 1 genal setula. Genal setula 1P2 as long as genal bristle, genal bristle 0161 times the vibrissa, vibrissa bristle about 0168 times the distance between vibrissa bristles. Facial knob slightly projecting, facial cavities shallow, facial lower margin dark brown. Antenna black. aristal hairs pubescence, the longest aristal hairs 3 times as long as aristal width at base, aristal about 3 times antenna.

Thorax. Black. Scutum with brownish black or dark brown posterolaterally. Humeral bristles 2, internal one short and small. Only one pair of prescutellar acrostichal setae enlarged, 6 rows of acrostichal setulae in front of suture. Dorsocentral bristles 3, postsutural 2 dorsocentral bristles subequal, about 1P2 as long as prescutellar dorsocentral bristles. Katepisternum bristles 2, the anterior small, the posterior strong, lower margin of katepisternum with hairs. Scutellum black, 0175 times as long as width, posterior margin rounded triangle. Scutellar disc bare. Scutellar bristles 2 pairs, basal scutellar bristles about 0.76 times as long as apical scutellar bristles.



Figs. 1-7. *Phthitia glabrescens*, male. 1. Mid tibia anteriorly. 2. Mid tibia dorsally. 3. Aedeagus and associated sclerites, laterally. 4. Genitalia laterally. 5. External genitalia caudally. 6. Surstylus laterally. 7. Sternite 5 ventrally. Scale bars: 1-5, 7 = 0.1 mm, 6 = 0.5 mm

Leg. Brownish black. Mid femur with fine pv spine-like bristle row, dense and thick and cluster near base. Mid femur proximal 1/4 with av row of spine-like bristles, dense and double row near base. Mid tibia with 1 moderate long ad and 1 pd (slightly shorter than ad) on proximal half, 1 small ad in front of long ad; with 1 long ad, 1 longer d and 1 long pd on distal half (3 bristles arranged in oblique line), 1 small ad in front of long ad, 1 small d in front of longer d; 2 p (respectively at distal 1P4 and predistal, the predistal seta2like); with apical v, its length 7P5 apical a; spine2like pv bristle row on distal half, dense and thick; fine av spine2like bristle row, dense and thick near apical. Mid basitarsus with 1 setula2like ventral bristle at proximal 1P4, somewhat longer than ventral setulae, but indistinct.



Figs1 8214. Phthitia bicornis sp. nov., male. 8. Mid tibia anteriorly. 9. Mid tibia dorsally. 10. Aedeagus and associated sclerites, laterally. 11. Genitalia laterally. 12. External genitalia caudally. 13. Surstylus laterally. 14. Sternite 5 ventrally. Scale bars= 01 1 mm.

Wing. Pale brown, veins brown. Costa ending at apex of R_{4+5}. Cs_1 with long and dense setae, 2 bristles at base of Cs_1, one slightly shorter than the other. Cs_2BCs_3 = 11 10. R_{2+3} apically less sharply bent up to costa. R_{4+5} sinuate to costa ending before tip of wing. M_{1+2} and M_{3+4} overpassing discal cell as pigmented processes, of which pigmented process of M_{1+2} is 6 times as long as width of dM2Cu cross2vein, M_{3+4} 9 times width of dM2 Cu cross2vein. M: dM2Cu= 11 94. Vein anal sinuate. Alula small and narrow, apical rounded. Halter grey black, apex of knob with slightly white.

Abdomen. Black or brownish black. Anteromedial half part of syntergite 1+ 2 pale yellow, tergites 3 to 5 black on posterior margin. Postabdomen slightly bent ventrally. Synsternite 1 + 2 pale brown medially, posteriorly brownish black, the rest brown, sternites 3 and 4 brownish black, sternite 5 black. Abdomen length: width = 116. Sternite 5 with 1 small process bearing setose on posteromedial margin, membranous on posterior margin. Epandrium with dense and short bristles. Cercus with several long bristles and short bristles. Surstylus three parts, anterior part with 2 horn2 like processes anteroapically, and 1 small lateral process on posteromedial margin of anterior part, and apically rounded. Lateral part with setose. Posterior part situated inside lateral part, posterior inner part with 1 thick spine and 1 long bristle. Sternite 10 with short mesolobus and 2 wing2shape sclerites.

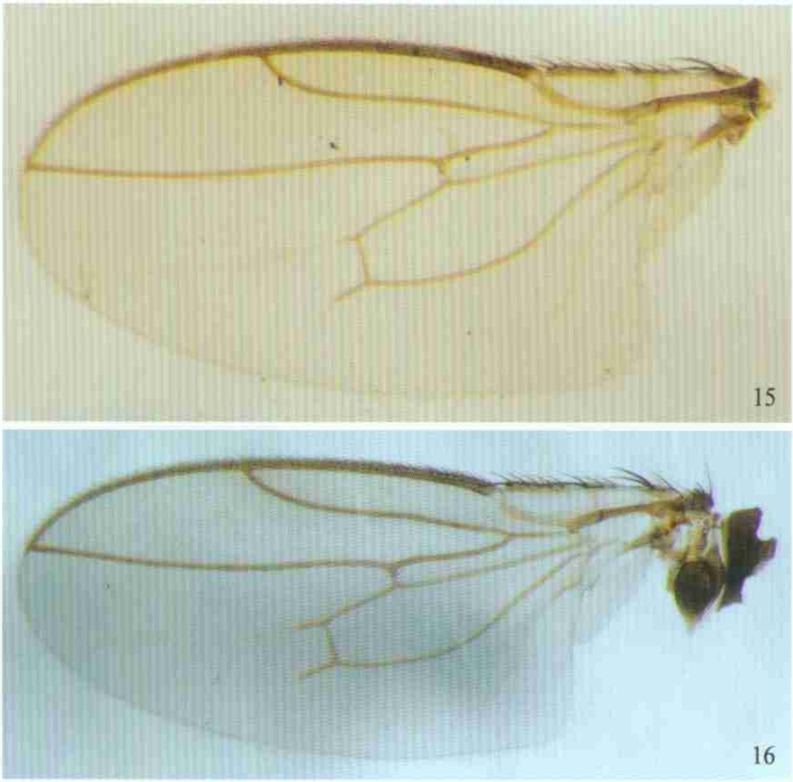
Femal. Unknown.

Holotype `, Ningxia, Dongshanpo ( alt. 2 100 m), Liu2ppan Mountains National Nature Reserve, 27 June 2008, SU Li2Xin ( SNU). Paratype 1 `, Ningxia, Heshangpu (alt. 2 100 m), Liupcan Mountains National Nature Reserve, 23 June 2008, SU Li2Xin (SNU).

Etymology. The specific name / bicornis0 is from Latin language, which refers to surstylus with anterior part with two horn2like processes anteroapically.

Distribution. China (Ningxia Province).

Comments. This new species is similar to *P. occimosa* and *P. plumosula* in following characters: surstylus lateral part, posterior inner part, anterior outer process, but differs from *P. occimosa* and *P. plumosula* in surstylus having 2 horn2like processes in apical margin of anterior part. Small and apical rounded lateral process at anterior part posteromedially, not at anterointernal corner of lateral part.



Figs1 15216. Wing, male. 15. *Phthitia glabrescens* 16. *Phthitia bicornis* sp. nov.

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中国刺足小粪蝇属一新种和一新纪录种 (双翅目, 小粪蝇科)

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摘 要 记述了中国刺足小粪蝇属 Phthitia Enderlein 2 种, 新种为双角刺足小粪蝇 Phthitia bicornis sp. nov., 新纪录种为指刺足小粪蝇 P. glabrescensc, 研究标本保存在沈阳大学。

关键词 双翅目, 小粪蝇, 刺足小粪蝇属, 新种, 新纪录, 中国.
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